

What is Claimed:

Claim 1. A suture needle having an internal cavity therein comprising:

a proximal end, a distal end, a point on the distal end, an opening at or in the proximity of the distal end, and a non-hollow portion or seal at or adjacent to the proximal end;

wherein the internal cavity is in fluid communication with said opening at one end and terminates at said non-hollow portion or seal at the other end;

a fluid residing within the internal cavity; and

a compressed gas residing between the fluid and the non-hollow portion or seal.

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Claim 2. The suture needle of claim 1, wherein the proximal end of the suture needle is attached to a suture.

Claim 3. A suture needle assembly comprising:

a suture needle having a first internal cavity therein and comprising a proximal end, a distal end, a point on the distal end, and an opening at or in the proximity of the distal end;

a connector having a second internal cavity therein and comprising a proximal end, a distal end, and a non-hollow portion or seal at or adjacent to the proximal end of the connector;

wherein the first internal cavity of the suture needle is in fluid communication with the opening of the suture needle at one end and with the second internal cavity of the connector at the other end, and the second internal cavity terminates at said non-hollow portion or seal of the connector;

a fluid residing within the first internal cavity of the suture needle or within the first internal cavity of the suture needle and the second internal cavity of the connector; and

a compressed gas residing between the fluid and the non-hollow portion or seal of the connector.

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Claim 4. The suture needle assembly of claim 3, wherein the proximal end of the connector is attached to a suture.

Claim 5. A suture needle / suture assembly comprising:

5 a suture needle having a internal cavity therein and comprising a proximal end, a distal end, a point on the distal end, and an opening at or in the proximity of the distal end;

a suture having at least one internal passageway therein and comprising a proximal end, a distal end, and seal in the internal passageway at a point located  
10 between the proximal and distal ends of the suture; said at least one internal passageway extending along a length of the suture;

wherein the internal cavity of the suture needle is in fluid communication with the opening of the suture needle at one end and with the at least one internal passageway of the suture at the other;

15 a fluid residing within the internal cavity of the suture needle or within the internal cavity of the suture needle and the at least one internal passageway of the suture; and

a compressed gas residing between the fluid and the seal on the suture.

20 Claim 6. The suture needle /suture assembly of claim 5, wherein the suture is selected from the group consisting of (i) a braided suture or multifilament tow coated with a polymer, (ii) a braided suture or multifilament tow having a lumen therein; and (iii) a hollow suture.

25 Claim 7. A suture needle / suture assembly comprising:

a suture needle having a internal cavity therein and comprising a proximal end, a distal end, a point on the distal end, and an opening at or in the proximity of the distal end;

a suture having at least one internal passageway and comprising a proximal end  
30 and a distal end; said at least one internal passageway extending along a length of the suture from the distal end to the proximal end of the suture;

wherein said internal cavity of said suture needle is in fluid communication with the opening of the suture needle at one end and with said at least one internal passageway of said suture at the other.

- 5      Claim 8. The suture needle / suture assembly of claim 7, wherein the outer diameter of the suture needle is greater than or equal to the outer diameter of the suture.

- Claim 9. The suture needle / suture assembly of claim 7, wherein the outer diameter of the suture needle is greater than the outer diameter of a first portion of the suture  
10      beginning at the distal end of the suture, but less than or equal to the outer diameter of a second portion of the suture.

- Claim 10. The suture needle / suture assembly of claim 7, wherein the suture is selected from the group consisting of (i) a braided suture or multifilament tow coated with a  
15      polymer, (ii) a braided suture or multifilament tow having a lumen therein, (iii) a braided suture or multifilament tow coated with a polymer contained within a larger braided suture or multifilament tow, and (iv) a hollow suture.

- Claim 11. The suture needle / suture assembly of claim 7, wherein the proximal end of  
20      the suture is attached to a reservoir, and the at least one internal passageway is in fluid communication with the reservoir.

- Claim 12. The suture needle / suture assembly of claim 11, wherein the reservoir is a  
25      hypodermic needle or syringe.

- Claim 13. The suture needle / suture assembly of claim 12, further comprising an elastomeric connector located between the suture and syringe.

- Claim 14. The suture needle / suture assembly of claim 6, wherein the lumen extends  
30      from the proximal end of the suture needle to a point between the distal and proximal ends of the braided suture or multifilament tow.

Claim 15. The suture needle of claim 1, wherein the fluid is selected from the group consisting of antimicrobial agents, antibiodic agents, antiviral, antithrombotic, anti-inflammatory agents, anesthetic agents, anti-proliferatives, growth factors, hemostatic agents, sealants, adhesives, scar treatment agents, angio-genesis promoting agents, pro-coagulation factors, anti-coagulation factors, chemotactic agents, agents to promote apoptosis, immunomodulators, mitogenic agents, epinephrine, thrombin, tranexamic acid, triclosan, gentamiacin, diphenhydramine, chlorpheniramine, pyrilamine, promethazin, meclizine, terfenadine, astemizole, fexofenidine, loratidine, aurothioglucose, auranofin, Cortisol (hydrocortisone), cortisone, fludrocortisone, prednisone, prednisolone, 6 $\alpha$ -methylprednisone, triamcinolone, betamethasone, and dexamethasone.

Claim 16. The suture needle of claim 3, wherein the fluid is selected from the group consisting of antimicrobial agents, antibiodic agents, antiviral, hemostatic agents, sealants, adhesives, antithrombotic, anti-inflammatory agents, anesthetic agents, , anti-proliferatives, growth factors, scar treatment agents, angio-genesis promoting agents, pro-coagulation factors, anti-coagulation factors, chemotactic agents, agents to promote apoptosis, immunomodulators, mitogenic agents, epinephrine, thrombin, tranexamic acid, triclosan, gentamiacin, diphenhydramine, chlorpheniramine, pyrilamine, promethazin, meclizine, terfenadine, astemizole, fexofenidine, loratidine, aurothioglucose, auranofin, Cortisol (hydrocortisone), cortisone, fludrocortisone, prednisone, prednisolone, 6 $\alpha$ -methylprednisone, triamcinolone, betamethasone, and dexamethasone.

Claim 17. The suture needle of claim 5, wherein the fluid is selected from the group consisting of antimicrobial agents, antibiodic agents, antiviral, hemostatic agents, sealants, adhesives, antithrombotic anti-inflammatory agents, anesthetic agents, , anti-proliferatives, growth factors, scar treatment agents, angio-genesis promoting agents, pro-coagulation factors, anti-coagulation factors, chemotactic agents, agents to promote apoptosis, immunomodulators, mitogenic agents, epinephrine, thrombin, tranexamic acid, triclosan, gentamiacin, diphenhydramine, chlorpheniramine, pyrilamine, promethazin, meclizine, terfenadine, astemizole, fexofenidine, loratidine, aurothioglucose, auranofin, Cortisol (hydrocortisone), cortisone, fludrocortisone,

prednisone, prednisolone, 6 $\alpha$ -methylprednisone, triamcinolone, betamethasone, and dexamethasone.

5 Claim 18. The suture needle of claim 7, wherein the fluid is selected from the group  
consisting of antimicrobial agents, antibiodic agents, antiviral, hemostatic agents,  
sealants, adhesives, antithrombotic, anti-inflammatory agents, anesthetic agents, , anti-  
proliferatives, growth factors, scar treatment agents, angio-genesis promoting agents,  
pro-coagulation factors, anti-coagulation factors, chemotactic agents, agents to promote  
apoptosis, immunomodulators, mitogenic agents, epinephrine, thrombin, tranexamic  
10 acid, triclosan, gentamiacin, diphenhydramine, chlorpheniramine, pyrilamine,  
promethazin, meclizine, terfenadine, astemizole, fexofenidine, loratidine,  
aurothioglucose, auranofin, Cortisol (hydrocortisone), cortisone, fludrocortisone,  
prednisone, prednisolone, 6 $\alpha$ -methylprednisone, triamcinolone, betamethasone, and  
dexamethasone.

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